

Serial No.: 09/759,993

Confirmation No.: 1053

Filed: 12 January 2001

For: ADHESIVE FILM REMOVAL METHOD AND APPARATUS

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**Remarks**

The Office Action mailed 8 July 2002 has been received and reviewed. Claims 2, 3 and 14-16 were cancelled without prejudice and claims 1, 4-6, 12, 17-19 and 22 were amended. Claims 1, 4-13, and 17-25 are pending. Reconsideration and withdrawal of the rejections are respectfully requested.

**Drawing Objections**

Applicants note that the drawings were objected to in the Office Action. Applicants submit herewith corrected formal drawings for review and approval by the Examiner. Upon approval, the drawings will be submitted with a communication to the draftsperson..

It should be noted that the formal drawings include reference numerals recited in the application as filed, but not depicted in the drawings as filed. Reference numeral 110 in Figure 3 is recited in the specification beginning at page 6, line 28. Reference numeral 118 and its corresponding arrow are described in the specification at, e.g., page 8, line 12. Reference numerals 217 and 218 and their corresponding arrows are described in the specification at, e.g., p. 10, lines 16-17. Applicants respectfully submit that no new matter is added.

**The 35 U.S.C. §102 Rejections**

**Claims 1-2, 8, 12 and 14-15**

The Examiner rejected claims 1-2, 8, 12 and 14-15 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,617,424 to Smith (hereinafter "Smith"), U.S. Patent No. 4,861,411 to Tezuka (hereinafter "Tezuka"), U.S. Patent No. 5,540,809 to Ida et al. (hereinafter "Ida"), or U.S. Patent No. 5,492,590 Sakai (hereinafter "Sakai").

Applicants amended claim 1 to further recite the subject matter of now cancelled claim 3, and claim 12 to further recite the subject matter of now cancelled claim 16, so as to more clearly describe the claimed subject matter. Insofar as the rejection is applied to amended claims 1 and 12, Applicants respectfully traverse the rejection of the claims as follows.

Applicants respectfully submit that Smith, Tezuka, Ida and Sakai fail to teach all the elements recited in claims 1 and 12. For example, the cited documents fail to teach a method of removing adhesive film from a substrate that includes applying tension over the width of the adhesive film and transferring the tension on the substrate in the form of a compressive force, where the compressive force is applied to the substrate at a distance from the release line, as recited in claim 1.

Furthermore, the cited documents fail to teach a method of removing adhesive film from a substrate that includes rotating the winding device to apply tension over the width of the adhesive film to remove the adhesive film from the substrate along a release line and transferring the tension applied to the adhesive film on the substrate in the form of a compressive force, with the compressive force being applied to the substrate by the winding device and where the compressive force is applied to the substrate at a distance from the release line, as recited in claim 12.

Claims 2 and 14-15 have been cancelled without prejudice, rendering their rejection moot.

For claim 8, Applicants respectfully submit that claim 8 is a dependent claim of independent claim 1. Applicants respectfully repeat the arguments presented above for independent claim 1 in support of the patentability of claim 8. In addition, claim 8 is also patentable as a further limitation of patentable base claim 1.

Applicants respectfully request reconsideration and withdrawal of these rejections of claims 1, 8 and 12 under 35 U.S.C. § 102.

**Claims 1, 3-4, 8-12, 16-17, 21-22 and 25**

The Examiner rejected claims 1, 3-4, 8-12, 16-17, 21-22 and 25 under 35 U.S.C. §102(b) as being anticipated by French Patent Publication 2643487 to Apollonio et al. (hereinafter "Apollonio"). Applicants respectfully traverse the rejections as follows.

Applicants amended claim 1 to further recite the subject matter of now cancelled claim 3, claim 12 to further recite the subject matter of now cancelled claim 16, and claim 22 so as to more clearly describe the claimed subject matter. Insofar as the rejection is applied to amended claims 1, 12 and 22, Applicants respectfully traverse the rejection of the claims as follows.

Applicants traverse the assertion that Appollonio teaches "transferring the tension onto the substrate through a compressive roller" as set forth in the Office Action. There is no discussion in Appollonio regarding the transfer of tension to compression and the above assertion is, at best, speculation. For example, the tension forces generated by removal of the strips 32 could just as likely be transferred directly to the pole-rail 1 through opposing pairs of rollers 6 and 7 (see, e.g., Figs. 1 & 3; Translation, p. 3, the paragraph beginning "This carriage . . .").

As such, Apollonio fails to teach a method of removing adhesive film from a substrate that includes applying tension over the width of the adhesive film to remove the adhesive film from the substrate along a release line and transferring the applied tension on the substrate in the form of a compressive force, where the compressive force is applied to the substrate at a distance from the release line, as recited in claim 1. Apollonio also fails to teach a method of removing adhesive film from a substrate that includes transferring tension applied to the adhesive film on the substrate in the form of a compressive force, with the compressive force being applied to the substrate by the winding device and where the compressive force is applied to the substrate at a distance from the release line, as recited in claim 12. Finally, Apollonio fails to teach an apparatus for removing adhesive film from a substrate where the apparatus includes a winding roll attached to a frame and a support roll rotatably attached to the frame, the support roll located a fixed distance from the winding roll, where the winding roll is adapted to apply a compressive force on an adhesive film on a substrate and the support roll comprises a release line along the

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adhesive film at a distance from the compressive force of the winding roll, as recited in claim 22.

Claim 3 has been cancelled without prejudice, rendering the rejection moot.

For claims 4 and 8-11, Applicants respectfully submit that claims 4 and 8-11 are dependent claims of independent claim 1. Applicants respectfully repeat the arguments presented above for independent claim 1 in support of the patentability of claims 4 and 8-11. In addition, claims 4 and 8-11 are also patentable as a further limitation of patentable base claim 1.

For claims 16-17 and 21, Applicants respectfully submit that claims 16-17 and 21 are dependent claims of independent claim 12. Applicants respectfully repeat the arguments presented above for independent claim 12 in support of the patentability of claims 16-17 and 21. In addition, claims 16-17 and 21 are also patentable as a further limitation of patentable base claim 12.

For claim 25, Applicants respectfully submit that claim 25 is a dependent claim of independent claim 22. Applicants respectfully repeat the arguments presented above for independent claim 22 in support of the patentability of claim 25. In addition, claim 25 is also patentable as a further limitation of patentable base claim 22.

Applicants respectfully request reconsideration and withdrawal of the rejection of pending claims 1, 4, 8-12, 16-17, 21-22 and 25 over Appollonio.

**Claims 1, 3, 5, 8-10, 12, 16, 18, 21-22 and 25**

The Examiner rejected claims 1, 3, 5, 8-10, 12, 16, 18, 21-22 and 25 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,891,298 to Kuroda et al. (hereinafter “Kuroda”). Applicants respectfully traverse the rejections as follows.

Applicants amended claim 1 to further recite the subject matter of now cancelled claim 3, claim 12 to further recite the subject matter of now cancelled claim 16, and claim 22 so as to more clearly describe the claimed subject matter. Insofar as the rejection is applied to amended claims 1, 12 and 22, Applicants respectfully traverse the rejection of the claims as follows.

Applicants traverse the assertion that Kuroda teaches "transferring the tension onto the substrate through a compressive roller" as set forth in the Office Action. There is no discussion in Kuroda regarding the transfer of tension to compression and the above assertion is, at best, speculation. For example, the tension forces generated by removal of the peeling tape 5 could just as likely be transferred directly to the structure supporting both rolls 6 and 8. Furthermore, Kuroda does not teach that the draw roller 6 does not apply a compressive force to the protective adhesive tape 3 at the release line.

As such, Applicants respectfully submit that Kuroda fails to teach all the elements recited in claims 1, 12 and 22.

With respect to claim 22, Kuroda also fails to teach an apparatus for removing adhesive film from a substrate that includes a winding roll and a support roll rotatably attached to a frame, wherein the winding roll and the support roll are arranged on the frame such that tension applied to an adhesive film during removal of the adhesive film from the substrate is transferred to the substrate through the support roll, and wherein the support roll is not located at a release line of the adhesive film, as recited in claim 22.

Claims 3 and 16 have been cancelled without prejudice, rendering their rejection moot.

For claims 5 and 8-10, Applicants respectfully submit that claims 5 and 8-10 are dependent claims of independent claim 1. Applicants respectfully repeat the arguments presented above for independent claim 1 in support of the patentability of claims 5 and 8-10. In addition, claims 5 and 8-10 are also patentable as a further limitation of patentable base claim 1.

For claims 18 and 21, Applicants respectfully submit that claims 18 and 21 are dependent claims of independent claim 12. Applicants respectfully repeat the arguments presented above for independent claim 12 in support of the patentability of claims 18 and 21. In addition, claims 18 and 21 are also patentable as a further limitation of patentable base claim 12.

For claim 25, Applicants respectfully submit that claim 25 is a dependent claim of independent claim 22. Applicants respectfully repeat the arguments presented above for independent claim 22 in support of the patentability of claim 25. In addition, claim 25 is also

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patentable as a further limitation of patentable base claim 22.

Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1, 5, 8-10, 12, 18, 21-22 and 25 over Kuroda as discussed above.

### **The 35 U.S.C. §103 Rejections**

#### **Claim 13**

The Examiner rejected claim 13 under 35 U.S.C. §103(a) as being unpatentable over Smith (U.S. Patent No. 3,617,424). Applicants respectfully traverse the rejection of claim 13.

Applicants respectfully submit that Smith fails to support a proper *prima facie* case of obviousness. For example, Applicants respectfully submit that Smith fails to teach or suggest all the claim limitations of independent claim 12, from which claim 13 depends. In support of this position, Applicants respectfully repeat the arguments presented above with respect to the anticipation rejection of claim 12 in view of Smith. In addition, Applicants respectfully submit that claim 13 is also patentable as a further limitation of patentable base claim 12.

Applicants respectfully request reconsideration and withdrawal of the rejection of claim 13 as obvious in view of Smith.

#### **Claims 23 and 24**

The Examiner rejected claims 23 and 24 under 35 U.S.C. §103(a) as being unpatentable over French Patent Publication 2643487 to Apollonio et al. (hereinafter “Apollonio”).

Applicants respectfully traverse the rejections.

Applicants respectfully submit that Apollonio fails to support a proper *prima facie* case of obviousness. For example, Applicants respectfully submit that Apollonio fails to teach or suggest all the claim limitations of independent claim 22, from which claims 23 and 24 depend. Applicants respectfully repeat the arguments presented above with respect to Apollonio for claim 22 in support of this position. In addition, Applicants respectfully submit that claims 23 and 24 are also patentable as further limitations of patentable base claim 22.

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Applicants respectfully request reconsideration and withdrawal of the rejection of claims 23 and 24 as obvious in view of Appollonio.

**Allowable Subject Matter**

Applicants thank the Examiner for indicating that claims 6-7 and 19-20 would be allowable if rewritten in independent form.

**Summary**

It is respectfully submitted that the pending claims 1, 4-13, and 17-25 are in condition for allowance and notification to that effect is respectfully requested. The Examiner is invited to contact Applicants' Representatives, at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted for  
Conrad V. ANDERSON et al.

By

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8 OCTOBER 2002

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**CERTIFICATE UNDER 37 CFR §1.10:**

"Express Mail" mailing label number: EV 073 731 730 US

Date of Deposit: October 8, 2002

The undersigned hereby certifies that this paper is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR §1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

By: Rachel Cagliardi-Gebhardt  
Name: Rachel Cagliardi-Gebhardt

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APPENDIX A - SPECIFICATION/CLAIM AMENDMENTS  
INCLUDING NOTATIONS TO INDICATE CHANGES MADE

Serial No.: 09/759,993

Docket No.: 56077US002 (formerly 56077USA7A.002)

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Amendments to the following are indicated by underlining what has been added and bracketing what has been deleted. Additionally, all amendments have been marked in bold typeface.

In the Claims

Claims 2-3 and 14-16 have been cancelled without prejudice. For convenience, all pending claims are shown below.

1. (AMENDED) A method of removing adhesive film from a substrate, the adhesive film comprising first and second ends defining a length and a width transverse to the length, the method comprising:

applying tension over the width of the adhesive film to remove the adhesive film from the substrate along a release line;

[distributing] transferring the tension [on] onto the substrate in the form of a compressive force, wherein the compressive force is applied to the substrate at a distance from the release line; and

advancing the release line and the compressive force towards the second end of the adhesive film, whereby the adhesive film is removed from the substrate.

4. (AMENDED) A method according to claim [3] 1, wherein the compressive force is applied to the substrate behind the release line as the release line advances toward the second end of the adhesive film.

5. (AMENDED) A method according to claim [3] 1, wherein the compressive force is applied to the substrate ahead of the release line as the release line advances toward the second end of the adhesive film.

6. (AMENDED) A method according to claim [3] 1, further comprising varying the distance

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between the compressive force and the release line.

7. A method according to claim 6, wherein varying the distance between the compressive force and the release line comprises varying the tension applied to the adhesive film.
8. A method according to claim 1, wherein the compressive force is applied to the substrate by a roll.
9. A method according to claim 1, wherein applying tension over the width of the adhesive film comprises attaching the first end of the adhesive film to a winding roll and winding the adhesive film thereon.
10. A method according to claim 9, wherein the compressive force is applied to the substrate by a support roll, and further wherein the winding roll and the support roll are located a fixed distance apart.
11. A method according to claim 1, further comprising heating the adhesive film before removing the adhesive film from the substrate along the release line.
12. (AMENDED) A method of removing adhesive film from a substrate, the adhesive film comprising first and second ends defining a length and a width transverse to the length, the method comprising:
  - attaching the first end of the adhesive film to a winding device;
  - rotating the winding device to apply tension over the width of the adhesive film to remove the adhesive film from the substrate along a release line;
  - transferring the tension applied to the adhesive film onto the substrate in the form of a compressive force, with the compressive force being applied to the substrate by the

**winding device and wherein the compressive force is applied to the substrate at a distance from the release line; and**

advancing the release line towards the second end of the adhesive film while winding the adhesive film on the winding device, whereby the adhesive film is removed from the substrate.

13. A method according to claim 12, wherein the adhesive film comprises a large-scale adhesive film.

17.(AMENDED) A method according to claim [16] 12, wherein the compressive force is applied to the substrate behind the release line as the release line advances toward the second end of the adhesive film.

18. (AMENDED) A method according to claim [16] 12, wherein the compressive force is applied to the substrate ahead of the release line as the release line advances toward the second end of the adhesive film.

19. (AMENDED) A method according to claim [16] 12, further comprising varying the distance between the compressive force and the release line.

20. A method according to claim 19, wherein varying the distance between the compressive force and the release line comprises varying the speed at which the winding device is rotated.

21. A method according to claim 12, further comprising heating the adhesive film before removing the adhesive film from the substrate along the release line.

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22. (AMENDED) An apparatus for removing adhesive film from a substrate, the apparatus comprising:

    a winding roll attached to a frame, the winding roll comprising a longitudinal axis;

    a motor operably connected to the winding roll for rotating the winding roll about its longitudinal axis; and

    a support roll rotatably attached to the frame, the support roll located a fixed distance from the winding roll, wherein the winding roll and the support roll are arranged on the frame such that tension applied to an adhesive film during removal of the adhesive film from the substrate is transferred to the substrate as compression through the support roll, and wherein the support roll is not located at a release line of the adhesive film.

23. The apparatus of claim 22, wherein the support roll comprises an outer conformable surface.

24. The apparatus of claim 22, wherein the motor comprises a variable speed motor.

25. The apparatus of claim 22, further comprising a heating device.